



The Growth of Organic Contract Farming in East Africa Who Benefits, How and How Much?

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The Growth of Organic Contract Farming in East Africa

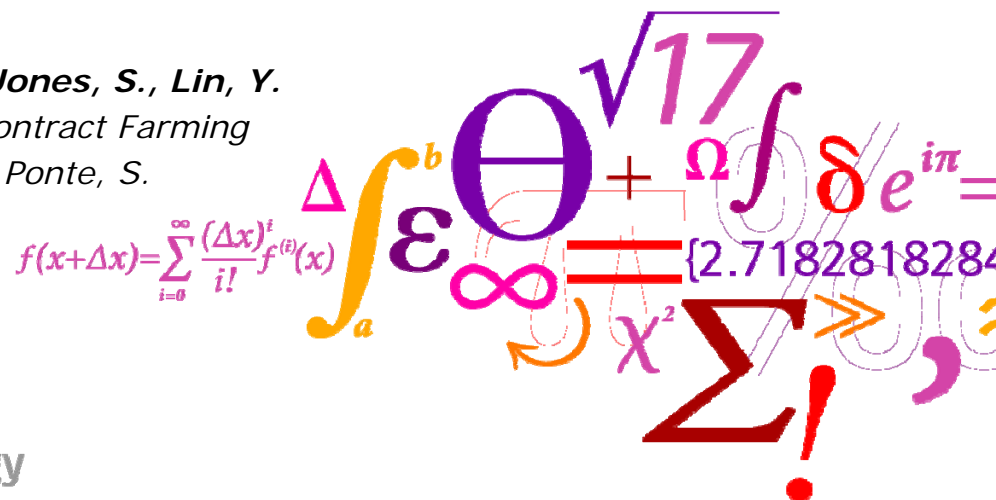
Who Benefits, How and How Much?

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Content

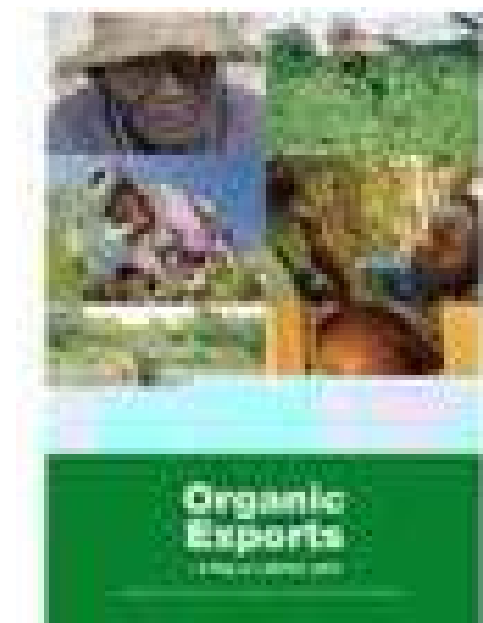
1. Background and objectives
2. Contract farming and organic farming in Africa
3. The surveyed organic contract farming schemes
4. Operationalization of research questions
5. Results and interpretation
6. Conclusions



Background and research questions

Background

- Increase in African smallholders certified to international organic standards over last 10 – 15 years, in response to market growth in OECD countries
- Organisation of this production mainly through a new generation of 'market based' contract farming schemes, supported by donors



Research questions

1. Do smallholders enjoy economic benefits from participating in new organic contract farming schemes (OCFSs)?
2. If there are such benefits, do they derive from initial differences in factor endowments or from factors integral to scheme participation, such as price premiums and access to different technologies?
3. If different outcomes among schemes, what scheme framework conditions are associated with optimisation of economic benefits?



Analytical strategy: surveys of 6 OCFS and matching control groups (2005-09)

New generation of contract farming in Africa

Stylized differences between 'state-sponsored' (1G) and 'market-based' (3G) contract farming schemes in Africa

	End markets	Local markets	Contracting company	Corporate strategy	Contract content
1G CF (1950-95)	Bulk	Monop-sonistic	Large	Multi-stage control	Detailed
	Thick	Fully inter-locked	State sponsored	(inputs, services, farm mgt)	Focus on pre-harvest
3G CF (2000 -)	Niche	Some competition	Different sizes	Price incentives	Limited coverage
	Thin Subject to over supply	Sometimes inter-locked	Donor supported	Strict quality control at purchase	Focus on post-harvest and purchase

Economics of organic farming (in Africa)

Key principles of international organic standards

- Reliance on natural materials and organisms for soil fertility management and pest/disease/weed control
- Use of synthetic inputs are generally not allowed
- No detailed prescriptions of farming methods

Characteristics of African agriculture relevant to organic conversion

- Low-input farming systems
 - easy compliance, no/low yield loss from conversion
 - certified farming not necessarily more organic than non-certified
- No public support to conversion/certification
 - certification through donor support, often through 3G CFSs
- Small farms
 - large economies of scale through 'group certification' implemented through contract farming or cooperative schemes

The organic CF schemes surveyed

Crop(s)	Contracting company	Start date (survey date)	No of Farmers (survey date)	Sample (members)	Sample (control)
Arabica coffee	Kawacom (UG)	2001 (2006)	3,870	112	48
Arabica coffee	Gumutindo coop (UG)	2001 (2006)	2,134	102	50
Cocoa, vanilla	Esco (UG)	2001 (2005)	1,721	30	30
Cocoa, vanilla	Esco (UG)	2001 (2009)	6,950	90	82
Pineapple	Biofresh (UG)	2004 (2006)	34	32	32
Black pepper	Tazop (TZ)	1999 (2006)	152	61	71
Chilli	Zangerm (TZ)	1995 (2006)	150	61	59

All schemes were set up with Sida/EPOPA support, at around \$100,000/company

Company characteristics and strategies

Esco (2009) and Kawacom	Gumutindo	Biofresh, Tazop & Zangerm
Affiliate of multi-national trading firm	Cooperative with financially separate buying and export unit	Jointly owned by local business and small organic distributor in Europe
Large. Well financed	Small. Crop finance through large Fair Trade importer	Small. Finance from European distributor
Main business is in conventional market	Experience from conventional market.	Specialized in organic markets
Buy all qualifying organic crop on offer. Sell surplus crop as conventional (Esco 2005: against variable orders)	Buy against start-of-season orders (predictable). Primary societies sell surplus organic crop as conventional 'off-scheme'	Buy against variable export orders (unpredictable)

Contract content and implementation

	Esco (2009)	Kawacom & Gumutindo	Biofresh	Tazop & Zangerm
'Premium' quality criteria	Processed Mould free MC<8%	Processed Clean MC<13%	1.2 – 1.6 kg Cut with knife Packed in boxes	Not different from other buyers
Price premium	Cocoa: 15% Vanilla: 100%	15%	30%	None
Exclusivity of sales	No	No	No	No
Technical assistance	Training Inspections	Training Inspections	Training Inspections	Training Inspections
Input provision	Very limited	Very limited	Very limited	Very limited

Operationalization of research questions

Question	Indicator	Justification
<p><i>To what extent has there been positive selection into the schemes?</i></p> <p><i>What factors are responsible for the observed selection (if any)?</i></p>	Skewed outcome in distribution of factor endowments between OCFS members and control group	<p>Identify possible biases against poor farmers</p> <p>Necessary to isolate revenue effect of participation and use of organic methods.</p>
<i>To what extent are scheme members more likely to follow organic farming practices than control groups (what other factors influence adoption)?</i>	Use of specific organic practices recommended by schemes. (Non-use of synthetic inputs treated as 'qualifier')	Does OCF promote <u>more</u> environmentally friendly farming in Africa?
<i>Are there revenue effects from participating in OCFSs, and if so, what causes these effects?</i>	Net revenue from certified crop (family labour is not costed)	<p>Does OCFS deliver welfare effects?</p> <p>Identify mechanisms behind 'successful' vs. 'failed' schemes</p>

Results and interpretation



Selection of farmers into schemes

	Kawacom	Gumutindo	Esco (2005)	Esco (2009)	Biofresh
No of trees / plants	++		+		
Farm altitude	++			-	
Farmer age	-		+		
Household labour			+		
Less/no off-farm work/revenue	+		++		+
Building material	+	-			
Major assets				+	

Method: Probit model for scheme participation

Use of organic farming practices

	Kawacom	Gumutindo	Esco (2005)	Esco (2009)	Biofresh
<i>Descriptive stats (% households)</i>					
Zero organic practices	21%	15%	30%	56%	16%
Two or more organic practices	34%	44%	10%	12%	34%
<i>Poisson model of factors influencing use</i>					
Scheme participation	+	+	+		
Other factors			+		

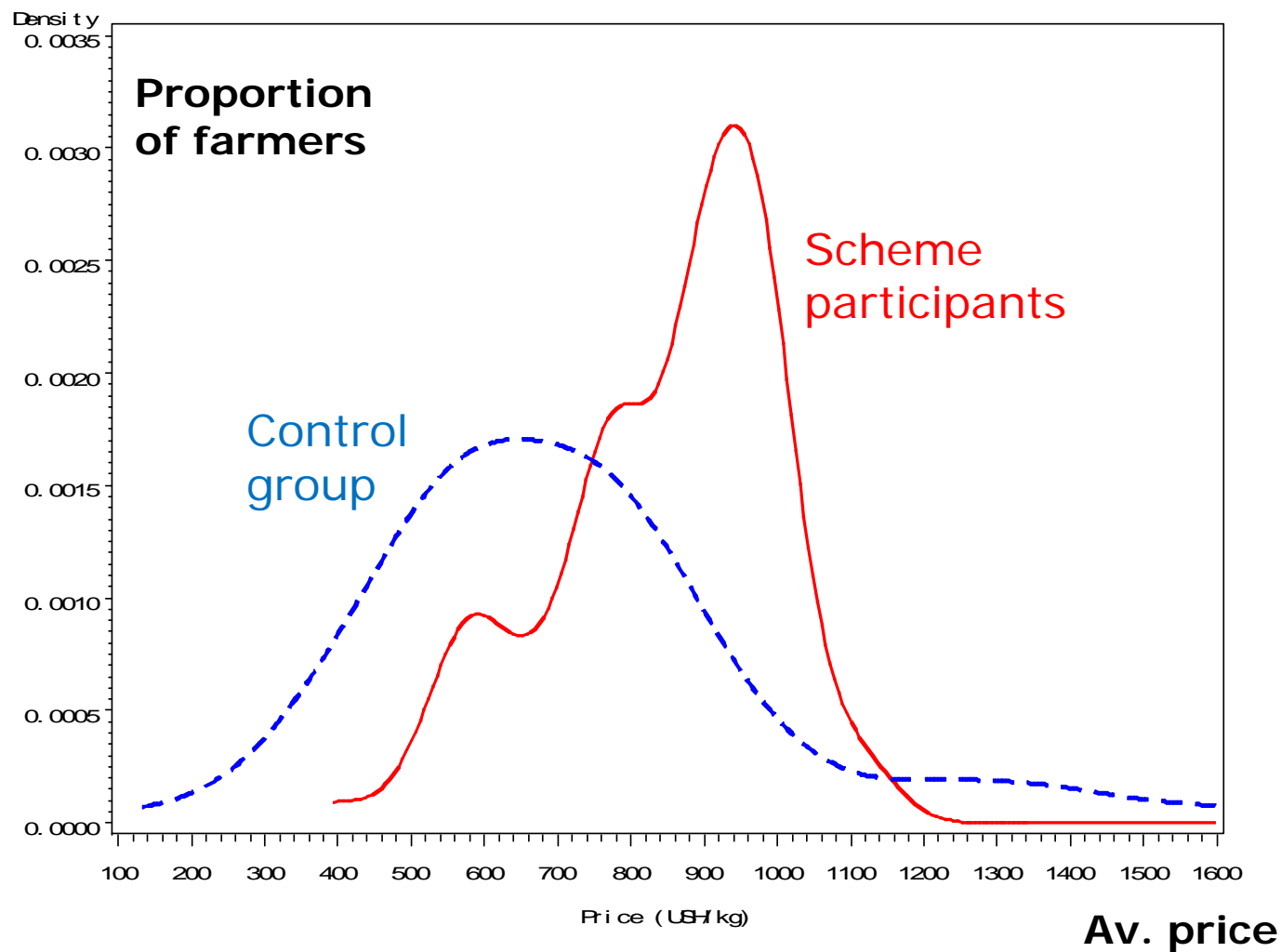
Tazop and Zangerm: No use of organic practices by certified farmers

Revenue effects of scheme participation and of use of organic practices

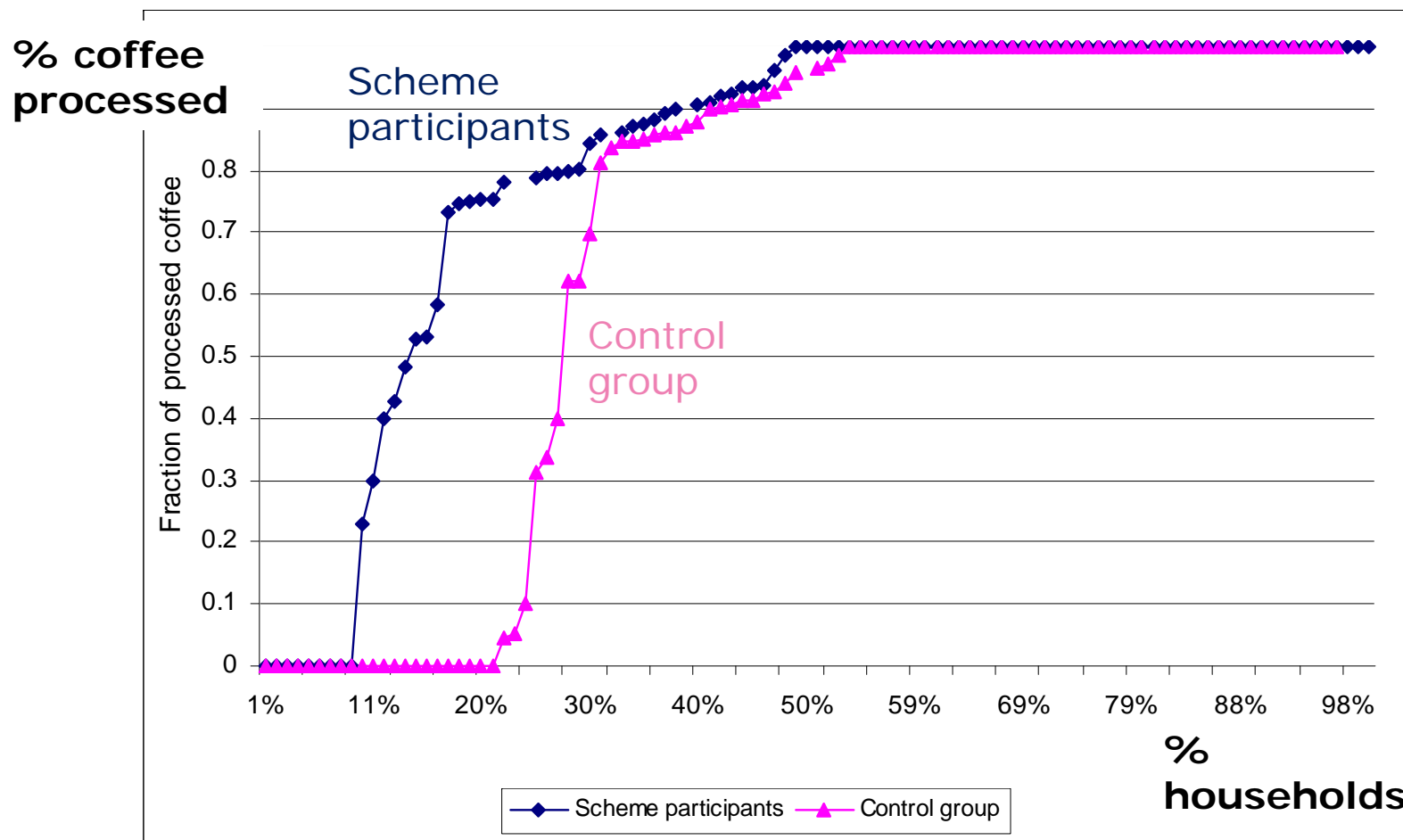
	Kawacom	Gumutindo	Esco (2005)	Esco (2009)	Biofresh
Scheme participation	++	+	++	++	+
Magnitude of effect (increase)	75%	N/A	62%	N/A	46%
Use of organic practices	+		++		
Magnitude of effect (increase)	9%	N/A	30%	N/A	0%

Method: 'FIML Heckmann selection' and 'OLS' regression models

Role of price premia



Role of on-farm processing



Role of yield

Variables affecting crop yield per tree (log)

Variable	Kawacom	Esco (2009)
Scheme participation	++	+
No. of organic practices	no effect	no effect
No. of trees	-	-
Farm size		+
Farmer education		-

Method: FIML Heckman regression

In the other schemes, yield was not significantly higher for participants compared to control group

Conclusions

- Where price premiums are provided, organic contract farming schemes (OCFSs) generate measurable revenue benefits for smallholders.
- The decisive factors relate to the contract farming rather than the organic elements of OCFSs.
- The key mechanism linking scheme participation with higher revenue is the presence of predictable price premiums on a continuous basis. This reduces farmers' risks of conforming to the 'organic +' quality standards imposed by the contracting company.
- Predictable and continuous premiums were offered by schemes run by companies with substantial financial resources and a presence in both organic and conventional markets. These schemes were also subject to high level of local competition for the certified crop.